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Submitted Electronically via email to: <http://www.arb.ca.gov/lispub/comm/bclist.php>

Re: Draft 2022 Climate Change Scoping Plan

Dear CARB,

Phillips 66 Company (Phillips 66) appreciates the opportunity to comment on the Air Resources Board (CARB) Draft 2022 Climate Change Scoping Plan. Phillips 66 is a major refiner and marketer of transportation fuels and other products in California where we market primarily through the 76® brand. This letter is in addition to comments we submitted on April 4, 2022, on the Scoping Plan Initial Modeling Results. We highlight that CARB should avoid technology mandates and should instead support all innovation to achieve the State's greenhouse gas (GHG) emission reduction goals.

We support and incorporate herein by reference the comments submitted by the Western States Petroleum Association (WSPA), dated June 24, 2022, and provide the following comments to emphasize key points.

CARB is Correct to Reject Alternatives 1 and 2 as not Cost-Effective and not Achievable by 2035

Alternatives 1 and 2 would require that California electrify most consumer and business energy use by 2035. They would also require a massive State buy-back and scrapping of existing vehicles and home and commercial appliances. CARB correctly concludes that the cost and required timeline for this buy-back and heavy electrification is unrealistic. CARB and other policymakers are also concluding that the



pace of electricity system expansion required in these two Alternatives is unrealistic, unfunded and could lead to unstable electricity supply. For our industry, these Alternatives would discourage growth of exciting low-carbon technologies such as renewable liquid fuels and carbon capture and sequestration (CCS) that are encouraged by other CARB programs.

Alternative 3 is improved versus Alternatives 1 and 2, but does not Embrace Transportation Innovation

Alternative 3 unfortunately anchors on an assumption of zero-emission vehicle (ZEV) mandates for California vehicles as proposed in the Advanced Clean Cars II (ACC II) and Advanced Clean Fleets (ACF) regulations. We encourage the Scoping Plan to characterize this as a modeling assumption and not a hard policy choice. We also encourage the Scoping Plan to fully acknowledge the uncertainties and risks of an all-ZEV mandate and to instead support all forms of low-carbon transportation. We recommend that CARB amend the 2022 Scoping Plan as follows:

- **California Refining:** Alternative 3 (Proposed Scenario) modeled “phasing down refining activity in line with petroleum demand” and this is discussed in the draft Plan’s Petroleum Refining section (p. 83). This assumes that refining would phase down consistent with the proposed ACC II and ACF rulemakings. What is true is that California refineries will continue to change over time producing less petroleum-based gasoline and diesel. However, some refineries may produce more renewable (low or zero-carbon) gasoline, diesel, and other fuels for a variety of end-uses. We note that the draft Plan’s Fuels section (p. 153) correctly states that “existing refineries could be repurposed to produce sustainable aviation fuel, renewable diesel, and hydrogen”. This could be repeated in the Refining section.

There is no better example of this refinery transition than Phillips 66’ Rodeo (San Francisco) Refinery. This long-time refinery, operating since 1896, has gone through major changes over the years to produce gasoline and diesel to California’s stringent standards and jet fuel for national and international air travel. The refinery continues to evolve. Since 2021, Rodeo has produced over 120 million gallons of renewable fuels, most of which is renewable diesel.

Looking ahead, the most significant change at Rodeo is the planned complete conversion of the refinery that will discontinue processing crude oil and process only biogenic materials. Our “Rodeo Renewed” project¹ when completed in 2024 will be one of the largest processors of biogenic feeds and producer of renewable fuels in California and globally. We thank CARB for its work to-date supporting this project. We will continue to share progress and work closely with CARB staff in coming months.

Regarding carbon capture and sequestration (CCS), the Refining discussion correctly identifies refineries as candidates for CCS. The Plan should also discuss how CCS would reduce the carbon-intensity of products.

California refineries will reposition to meet future demand for low-carbon fuels. The Scoping Plan is correct to not recommend that refining be phased down as that would only result in fuel demand met via increased marine imports of fuels.

We recommend that CARB present a broader picture for the future of California refineries in the Scoping Plan Petroleum Refining discussion, with refineries producing a future array of low-carbon fuels.

- **Renewable Diesel Fuel:** The draft Plan Fuels section (pp. 152-153) states that the refinery transition to renewable fuels “has already begun and continuing to develop fuel production capacity in-state to support the energy transition while making the most efficient use of existing assets is critical to avoiding emissions leakage.” The Cap-and-Trade and LCFS regulations encourage production of renewable products including renewable diesel. CARB has also supported renewable diesel in harbor craft and other rulemakings.

These are all positive indicators that support our investment decision in “Rodeo Renewed” as discussed above.

We agree with the draft Plan’s spirited statement (Executive Summary) that “the challenge before us requires us to keep all tools on the table.”

However, we must highlight that by calling Alternative 3 the Proposed Scenario, CARB would not be keeping “all tools on the table”. This alternative assumes a ZEV mandate for cars and trucks. We instead encourage CARB, in this visionary 2022 Scoping Plan, to not rule out options but to instead increase support for all solutions including renewable fuels to 2045 and beyond. ZEVs will have a role, but they should not be the only solution and may not be the best solution for all vehicles in 2045.

From a policy perspective, the Scoping Plan and CARB regulations should support vehicle/fuel innovation via emission performance standards. This would be consistent with CARB’s long and successful history. New engines using renewable fuels are viable options. We recommend that the Proposed Scenario set a path to establish performance standards instead of mandate ZEVs.

- **Carbon Capture and Sequestration (CCS):** Alternative 3 (Proposed Scenario) correctly identifies the critical role for CCS and carbon dioxide removal (CDR, DAC) in meeting the State’s climate goals. The draft Plan (pages 68-69) describe a potential role for CCS at refineries. CCS is a well-established technology that is commercially available, safe, and well-tested with several projects currently in operation world-wide. We agree that the initial modeling assumptions for implementation of CCS at refineries was aggressive and we support CARB updating assumptions on deployment. The State can better support CCS with the following actions and we recommend including these in the Final 2022 Scoping Plan:
 - Policy support for CCS: We support the draft Scoping Plan’s positive discussion of CCS and the large role it can play in achieving the State’s climate goals. This support should carry forward into legislation and regulation that encourages and allows predictable, efficient, and timely permitting of CCS projects. This will be critical for practical project deployment.
 - Funding support for CCS: CARB should stay informed on the economics of CCS to identify the ways to support projects. CARB should support additional financing mechanisms (e.g., tax incentives, loan guarantees, funding for demonstration projects,

major project funding, etc.) and incentives (such as credits through the Low Carbon Fuel Standard) to support CCS. Phillips 66 is prepared to discuss options with CARB staff.

- Regulatory support for CCS: CARB should take the following actions: 1) update the Carbon Capture and Sequestration Protocol under the Low Carbon Fuel Standard based on learnings since the protocol was adopted in 2018, and 2) amend the Cap-and-Trade regulation to recognize emission reductions from CCS.

- **Hydrogen:** Hydrogen has been used for decades in the refining and petrochemical industries and is an exciting future fuel for Fuel Cell Electric Vehicles (FCEV) and industrial applications. While hydrogen is referenced throughout the draft Plan (e.g., Fuels section) and in the modeling, we do not see a section in the Plan that communicates a broad vision for hydrogen. We think policy makers might therefore underestimate its potential. We encourage CARB to include a special section for hydrogen similar to the “Proposed Role for....” sections in the draft Plan (pages 66-72).

As examples of our own actions, Phillips 66 is currently selling hydrogen fuel through our COOP venture in Switzerland, and in February we and H2 Energy Europe announced a commitment to develop up to 250 retail hydrogen refueling stations across Germany, Austria, and Denmark by 2026 through a 50-50 joint venture ². Phillips 66 and Plug Power signed a memorandum of understanding to collaborate on the development of low-carbon hydrogen business opportunities. We will look to leverage these experiences as we pursue opportunities in California.

Project Development

The proposed Scoping Plan provides an aggressive blueprint for change. For that blueprint to become reality, it will rely on “whole of government” support as noted in the draft (Executive Summary page iv). We believe that support must include the following:

- **Streamline project CEQA review and permitting.** It takes too long to permit projects. Projects that reduce or enable GHG reductions should receive proper CEQA and permitting review but deserve an expedited process to secure GHG reductions as soon as possible. The State and companies must invest trillions of dollars in the next 20 years to achieve the 2045 goals. Project developers must have confidence that they can get projects approved and built within a reasonable period of time. Projects that reduce GHG emissions sooner result in lower cumulative GHG in the atmosphere. We recommend that CARB support legislation to streamline project CEQA review and permitting.
- **Role of local governments:** We are encouraged that the draft Plan includes a section for Local Climate Action Planning and Permitting (pages 271-221). It correctly states, “It is important to recognize that we will need to build new energy production and distribution infrastructure, and



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repurpose existing ones, for clean technology and energy...". We encourage the Scoping Plan, CARB, and other State agencies to provide clear guidance to local governments, to ensure that they are aligning with the State's goals and that local government representatives not only support this very important statement in their words, but also in their actions.

- **Project financial support:**

- CARB should continue to support market mechanisms including the Cap-and-Trade program. Cap-and-Trade is functioning properly and does not need major restructuring. It should continue to recognize the value of offsets. We do recommend that the Cap-and-Trade regulation be updated at next opportunity to reflect current technology trends. These updates should include recognizing renewable gasoline and GHG reductions via CCS.
- State and federal funding. CARB should recommend that funding be allocated to major projects such as renewable fuels, CCS and DAC. Incentives from existing programs may fall short in encouraging early projects. We encourage CARB and sister agencies to recommend increased project funding, including funding of projects in industry.

Conclusion

Our company has been operating in California and providing energy to our California customers and the economy for over 120 years. We continue to innovate and reduce the GHG emissions from our operations and consumer products. We encourage CARB to support innovation, utilize market mechanisms, adopt technology-neutral and cost-effective regulations, and streamline and fund project development where needed. We at Phillips 66 take pride in "Providing Energy. Improving Lives". With the above-mentioned policy foundations incorporated into the Scoping Plan, we can continue to fill this role in California for decades to come.

Thank you for this opportunity to submit comments. You can reach me at 832-765-1779 or steven.d.smith@p66.com.

Best Regards,



Steven D. Smith

1. [Phillips 66 | Rodeo Renewed gets green light from local county](#)
[Phillips 66 Makes Final Investment Decision to Convert San Francisco Refinery to a Renewable Fuels Facility - Phillips 66 - PSX](#)
2. [Phillips 66 | Phillips 66 and H2 Energy Europe to develop hydrogen refueling network in Germany, Austria and Denmark](#)